

WHAT IS CLAIMED IS:

1. An audio player comprising:
a circular main body;
a display panel provided at one face of said main
5 body;

an operating switch rotatably provided at
a periphery of said display panel; and

a wireless communication antenna provided at the
other face of said main body.

10 2. The audio player according to claim 1, further
comprising a card slot provided at a side face of said
main body.

3. A headphone comprising:
a circular main body;
15 a speaker provided on one face of said main body;
a wireless communication antenna provided at the
other face of said main body; and
an ear hook provided at said main body.

4. The headphone according to claim 3, further
20 comprising a rotary power switch rotatably provided at
a periphery of said antenna.

5. A music reproduction apparatus comprising
an audio player and a headphone connected to said audio
player via a wireless digital data transmission
25 channel, said audio player comprising:

a transmitter configured to transmit music data
with an error correction code to said headphone;

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a reproduction request detector configured to detect a reproduction request from said headphone; and

a retransmission section configured to re-transmit requested music data to said headphone based on the reproduction request detected by said reproduction request detector, and said headphone comprising:

a receiver configured to receive music data transmitted from said audio player;

an error detecting/correcting section configured to detect and correct an error of the music data received by said receiver and determine whether or not data retransmission is required; and

a retransmission request section configured to, when said error detecting/correcting means determines that data retransmission is required, transmit a retransmission request to said audio player.

6. The music reproduction apparatus according to claim 5, wherein said headphone comprises an operating switch and wirelessly transmits an operating state signal of said operating switch to said audio player, and said audio player controls a player operation based on the operating state signal.

7. The music reproduction apparatus according to claim 5, wherein said headphone comprises a microphone and wirelessly transmits a voice signal input from the microphone and indicating a command to said audio player, and said audio player carries out voice

recognition and command interpretation for the voice signal transmitted from said headphone and controls a player operation based on a result of the command interpretation.

5 8. The music reproduction apparatus according to claim 5, wherein said audio player comprises an interface capable of wirelessly connecting a plurality of headphones.

10 9. The music reproduction apparatus according to claim 5, wherein said audio player comprises a first battery level detector configured to detect a level of an incorporated battery of the audio player, and said headphone comprises a second battery level detector configured to detect a level of an incorporated battery
15 of the headphone and a first warning section configured to issue a warning sound when the level of the incorporated battery detected by at least one of said first battery level detector and said second battery level detector is lower than a predetermined value, and
20 said audio player comprises a second warning section configured to display a warning message when the level of the incorporated battery detected by at least one of said first battery level detector and said second battery level detector is lower than the predetermined
25 value.

10. The music reproduction apparatus according to claim 5, wherein said headphone comprises an electric

field intensity detector configured to detect
an electric field intensity of an electric wave
transmitted from said audio player and a warning
section configured to issue warning when the detected
5 electric field intensity is lower than a predetermined
value.

11. The music reproduction apparatus according to
claim 5, wherein said headphone comprises an error rate
detector configured to detect an error rate of an
10 electric wave transmitted from said audio player and
a warning section configured to issue warning when the
detected error rate is higher than a predetermined
value.

12. The music reproduction apparatus according to
15 claim 5, wherein said headphone comprises an electric
field intensity detector configured to detect an
electric field intensity of an electric wave
transmitted from said audio player, a first distance
estimator configured to estimate a first distance
20 between said headphone and said audio player, an error
rate detector configured to detect an error rate of
the electric wave transmitted from said audio player,
a second distance estimator configured to estimate
a second distance between said headphone and said audio
25 player, and a warning section configured to issue
warning when at least one of the estimated first
distance and the estimated second distance is longer

than a predetermined distance.

13. A music reproduction apparatus comprising
an audio player and a pair of left and right headphones
connected to said audio player via a wireless digital
5 data transmission channel, said audio player
comprising:

a transmitter configured to transmit left and
right music data to the left and right headphones, and
each of said left and right headphones comprising:

10 a receiver configured to receive the left and
right music data transmitted from said audio player;
and

a data extracting section configured to extract
one of the left and right music data received by said
15 receiver.

14. The music reproduction apparatus according to
claim 13, wherein said headphone comprises an operating
switch and wirelessly transmits an operating state
signal of said operating switch to said audio player,
20 and said audio player controls a player operation based
on the operating state signal.

15. The music reproduction apparatus according to
claim 13, wherein said headphone comprises a microphone
and wirelessly transmits a voice signal input from the
25 microphone and indicating a command to said audio
player, and said audio player carries out voice
recognition and command interpretation for the voice

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signal transmitted from said headphone and controls a player operation based on a result of the command interpretation.

16. The music reproduction apparatus according to claim 13, wherein said audio player comprises an interface capable of wirelessly connecting a plurality of headphones.

17. The music reproduction apparatus according to claim 13, wherein said audio player comprises a first battery level detector configured to detect a level of an incorporated battery of the audio player, and said headphone comprises a second battery level detector configured to detect a level of an incorporated battery of the headphone and a first warning section configured to issue a warning sound when the level of the incorporated battery detected by at least one of said first battery level detector and said second battery level detector is lower than a predetermined value, and said audio player comprises a second warning section configured to display a warning message when the level of the incorporated battery detected by at least one of said first battery level detector and said second battery level detector is lower than the predetermined value.

18. The music reproduction apparatus according to claim 13, wherein said headphone comprises an electric field intensity detector configured to detect

an electric field intensity of an electric wave transmitted from said audio player and a warning section configured to issue warning when the detected electric field intensity is lower than a predetermined value.

19. The music reproduction apparatus according to claim 13, wherein said headphone comprises an error rate detector configured to detect an error rate of an electric wave transmitted from said audio player and a warning section configured to issue warning when the detected error rate is higher than a predetermined value.

20. The music reproduction apparatus according to claim 13, wherein said headphone comprises an electric field intensity detector configured to detect an electric field intensity of an electric wave transmitted from said audio player, a first distance estimator configured to estimate a first distance between said headphone and said audio player, an error rate detector configured to detect an error rate of the electric wave transmitted from said audio player, a second distance estimator configured to estimate a second distance between said headphone and said audio player, and a warning section configured to issue warning when at least one of the estimated first distance and the estimated second distance is longer than a predetermined distance.

21. A music reproduction apparatus comprising
an audio player and a pair of left and right headphones
connected to said audio player via a wireless digital
data transmission channel, said audio player comprising
5 a transmitter configured to transmit left and right
music data to the left and right headphones
respectively.

22. The music reproduction apparatus according to
claim 21, wherein said headphone comprises an operating
10 switch and wirelessly transmits an operating state
signal of said operating switch to said audio player,
and said audio player controls a player operation based
on the operating state signal.

23. The music reproduction apparatus according to
15 claim 21, wherein said headphone comprises a microphone
and wirelessly transmits a voice signal input from the
microphone and indicating a command to said audio
player, and said audio player carries out voice
recognition and command interpretation for the voice
20 signal transmitted from said headphone and controls
a player operation based on a result of the command
interpretation.

24. The music reproduction apparatus according to
claim 21, wherein said audio player comprises an
25 interface capable of wirelessly connecting a plurality
of headphones.

25. The music reproduction apparatus according to

claim 21, wherein said audio player comprises a first
battery level detector configured to detect a level of
an incorporated battery of the audio player, and said
headphone comprises a second battery level detector
5 configured to detect a level of an incorporated battery
of the headphone and a first warning section configured
to issue a warning sound when the level of the
incorporated battery detected by at least one of said
first battery level detector and said second battery
10 level detector is lower than a predetermined value, and
said audio player comprises a second warning section
configured to display a warning message when the level
of the incorporated battery detected by at least one of
said first battery level detector and said second
15 battery level detector is lower than the predetermined
value.

26. The music reproduction apparatus according to
claim 21, wherein said headphone comprises an electric
field intensity detector configured to detect an
20 electric field intensity of an electric wave
transmitted from said audio player and a warning
section configured to issue warning when the detected
electric field intensity is lower than a predetermined
value.

25 27. The music reproduction apparatus according to
claim 21, wherein said headphone comprises an error
rate detector configured to detect an error rate of

an electric wave transmitted from said audio player and a warning section configured to issue warning when the detected error rate is higher than a predetermined value.

- 5 28. The music reproduction apparatus according to claim 21, wherein said headphone comprises an electric field intensity detector configured to detect an electric field intensity of an electric wave transmitted from said audio player, a first distance
- 10 estimator configured to estimate a first distance between said headphone and said audio player, an error rate detector configured to detect an error rate of the electric wave transmitted from said audio player, a second distance estimator configured to estimate
- 15 a second distance between said headphone and said audio player, and a warning section configured to issue warning when at least one of the estimated first distance and the estimated second distance is longer than a predetermined distance.

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